

CLAIMS

1. A method of simulating an audio effect processor comprising the steps of:

5 a) storing the impulse response of the audio processor for at least two impulses;

b) repeatedly assessing a characteristic of an input signal;

c) selecting at least one of the impulse responses to apply to the input signal in dependence on the result of the assessment; and

d) applying the selected impulse response to the input signal to derive an

10 output signal.

2. A method according to claim 1, wherein the step of storing the impulse response comprises storing at least two sets of digital samples representing the at least two impulse responses and the step of applying the stored impulse response comprises the step of convolving each of a first set of digital samples representing the assessment of the characteristic of the input signal with the selected set of digital samples representing the selected impulse response appropriate to the characteristic to give a second series of digital samples representing the output signal.

3. A method according to claim 1 or 2 in which the step of assessing a characteristic of the input signal comprises assessing its amplitude.

4. - A method according to claim 3, in which the step of selecting an impulse response to apply to the input signal comprises determining whether the amplitude of the input

25 signal is above or below a predetermined threshold.

5. A method according to claim 3, in which the step of selecting an impulse response to apply to the input signal comprises determining whether or not the amplitude of the input signal falls within a predetermined range, applying more than one impulse response

30 to the input signal if the result of the determination is that the amplitude of the input signal

does fall within the predetermined range and deriving the output signal therefrom.

6. A method according to claim 5, in which the more than one impulse responses applied to the input signal are applied in proportions which sum substantially to 1.

7. A method according to claim 6, in which the proportions of the impulse responses applied to the input signal are dependent on the position of the amplitude of the input signal within the predetermined range.

8. A method according to claim 1 or 2 in which the step of selecting an impulse response to apply to the input signal comprises the step of detecting a user input and selecting the impulse response in dependence thereon.

9. A method according to claim 1 or 2 in which the step of selecting an impulse response to apply to the input signal comprises the step of monitoring a time dependent variable and selecting an impulse response in dependence thereon.

10. Apparatus for simulating an audio effect processor comprising:

- (a) means for storing the impulse response of the audio processor for at least two impulses;
- (b) means for repeatedly assessing a characteristic of an input signal;
- (c) means for selecting at least one of the impulse responses to apply to the input signal in dependence on the result of the assessment; and
- (d) means for applying a selected impulse response to the input signal to derive an output signal.

11. Apparatus according to claim 10 wherein the means for storing the impulse response comprises means for storing at least two sets of digital samples representing the respective impulse responses and the means for applying the stored impulse response comprises means for convolving each of a first series of digital samples representing the

assessment of the characteristic of the input signal with the selected set of digital samples representing the selected impulse response to give a second series of digital samples representing the output signal.

5 12. Apparatus according to claim 11 or 12 in which the means for assessing the characteristic of the input signal comprises means for assessing the amplitude of the input signal.

10 13. Apparatus according to claim 12 in which the means for selecting an impulse response to apply to the input signal comprises means for determining whether the amplitude of the input signal is above or below a predetermined threshold.

14. Apparatus according to claim 12 in which the means for selecting an impulse response to apply to the input signal comprises means for determining whether or not the amplitude of the input signal falls within a predetermined range and the means for applying more than one impulse response to the input signal does this if the result of the determination is that the amplitude of the input signal is within the predetermined range.

15. A method according to claim 14 in which the more than one impulse responses applied to the input signal are applied in proportions which sums substantially to 1.

16. Apparatus according to claim 15 in which the proportions of the impulse responses applied to the input signal are dependent on the position of the amplitude of the input signal within the predetermined range.

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82 17. Apparatus according to claim 11 or 12 in which the means for selecting an impulse response to apply to the input signal comprises means for detecting a user input to which the selecting means is responsive.

30 18. Apparatus according to claim 11 or 12 in which the means for selecting an impulse

response to apply to the input signal comprises means for monitoring a time dependent variable to which the selecting means is responsive.

5 ^{Sub B3} 19. A method according to claim 1 comprising the step of storing the impulse response for a plurality of different audio processors.

20. Apparatus according to claim 10 comprising means for storing the impulse responses for a plurality of different audio processors.

10 21. A method for storing the impulse response of an audio processor for use in the method of any of claims 1-9.

22. Apparatus for storing the impulse response of an audio processor for use in the apparatus of any of claims 10-18.